Dehcho Boreal Caribou Study Progress Report, April 2012

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Photo Credit Danny Allaire - ENR

The Dehcho boreal caribou study was initiated in 2004 with the deployment of ten satellite collars on adult female caribou at the request of, and after consultation with Sambaa K'e Dene Band (SKDB) of Trout Lake. Extensive consultations in response to requests from other First Nations since have increased the study area and number of First Nations partners in this study. From 2005-2012 a total of 56 satellite, 43 GPS, and four VHF collars have been deployed on adult female boreal caribou (see Appendix 1). A more detailed background history of the program, the collars used, and the deployment procedures can be found in Larter and Allaire (2010). This report provides updated results and information for another year of data.

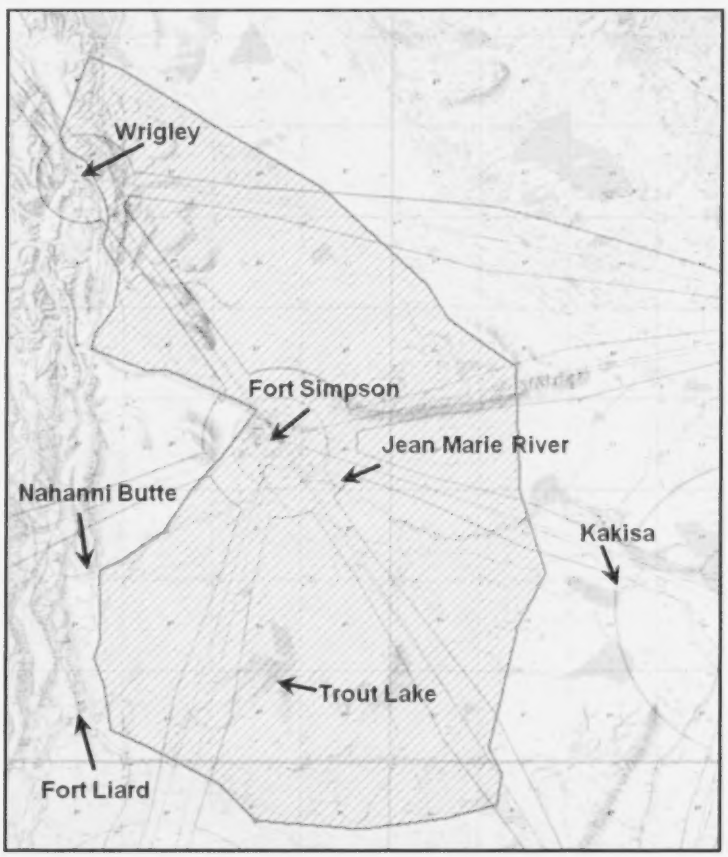

Figure 1. The Dehcho boreal caribou study area, based upon the locations of satellite collared adult female boreal caribou.

Home Ranges

We calculated the 100% minimum convex polygon (MCP) for all caribou with locations for ≥12 months (n=62). This is a line connecting all of the outside points where a specific caribou was located and represents the range used by an individual female caribou. For 42 of the 62 collared females we had locations for ≥24 months. We calculated a cumulative range of use from all locations for each individual female (Fig. 2). The mean size of individual range was 3294km^2 (range 205-14,103km^2; median 2788km^2). Seven caribou went into northeastern British Columbia (NEBC) and one into northwestern Alberta (Fig. 2). Two caribou collared in an NEBC study have been located southeast of Trout Lake (Brad Culling pers. comm.). A caribou originally collared in the adjacent Cameron Hills study area (Johnson 2007), was re-captured and collared in February 2007 near Trainor Lake; this collar released in June 2010. We calculated its home range based solely on locations after it was re-collared. A caribou collared north of Trout Lake in February 2010 has the largest range. She moved south of Trout Lake, east towards the Redknife River, and more recently west towards the Netla River and the Liard Highway. Home range sizes we report are similar to those reported for the Cameron Hills and Hay River Lowlands (Kelly and Cox 2011) and Gwich'in study areas (means of ca. 3000km^2; Nagy 2011).

Figure 2. Cumulative home ranges (100% MCP) of **62** collared female boreal caribou. Red, females with satellite collars, black, females with GPS collars.

Calving and Calving Events

Female boreal caribou spread out during the calving period, likely to avoid predation (Fig. 3). Daily movement rates drop dramatically from *ca.* 6km/day two days prior to calving, to *ca.* 0.2km/day on the day of calving, and remain at ≤1km/day for about a week post-calving (Nagy 2011). By analyzing the daily movement patterns of collared female caribou we can determine when and where a female boreal caribou calved or not. The peak of calving period for boreal caribou in southern NT is May 7-21 (Nagy 2011). By using movement data to determine calving dates, we no longer have to fly survey(s) during the calving period thus reducing disturbance and we also get a more accurate assessment of the number of calves born because we do not risk surveying before calves are born or after newborn calves may have died.

Figure 3. Calving locations of collared female boreal caribou during 9-28 May, 2011. Note the wide dispersal throughout the range.

In 2011 we determined calving events for all collared female boreal caribou. All 20 females had calves, caribou 183 lost her calf shortly after its birth. Calves were born to collared females from May 9-28, 2011. The 19 day calving period in 2011 was greater than the 13 day period for 31 females in 2010 and extended after the peak calving period defined in Nagy (2011); the calving date for the VHF collared female could not be determined. On 10 May, the largest number of calves was born (4 of 20) and by 19 May, 80% (16 of 20) of the calves were born (Fig. 4). The last calf born to a collared female was on 28 May.

Based upon the 17 collared females that calved in May 2011 and survived with active collars to be observed in the March 2012 classification survey, calf survival was *ca.* 53% (9/17). Two collared females (153, 154) calved during May 2011 but their collars released on schedule in July 2011. Another collared female (166) died likely from wolf predation on 30 October, 2011. Therefore their calves could not be included in the estimate of survival.

Female caribou can live up to 17 years and can conceive at 16 years of age (Larter and Allaire 2009). Boreal caribou, like other deer, have a high probability of conceiving after reaching maturity at 2-3 years old. Based upon the level of progesterone in blood serum from the collared females, 90% (91 of 101) were pregnant; six (6.0%) were not pregnant and the remaining four were borderline (Table 1). We determined that one borderline caribou (176) did not have a calf based upon analysis of movement data.

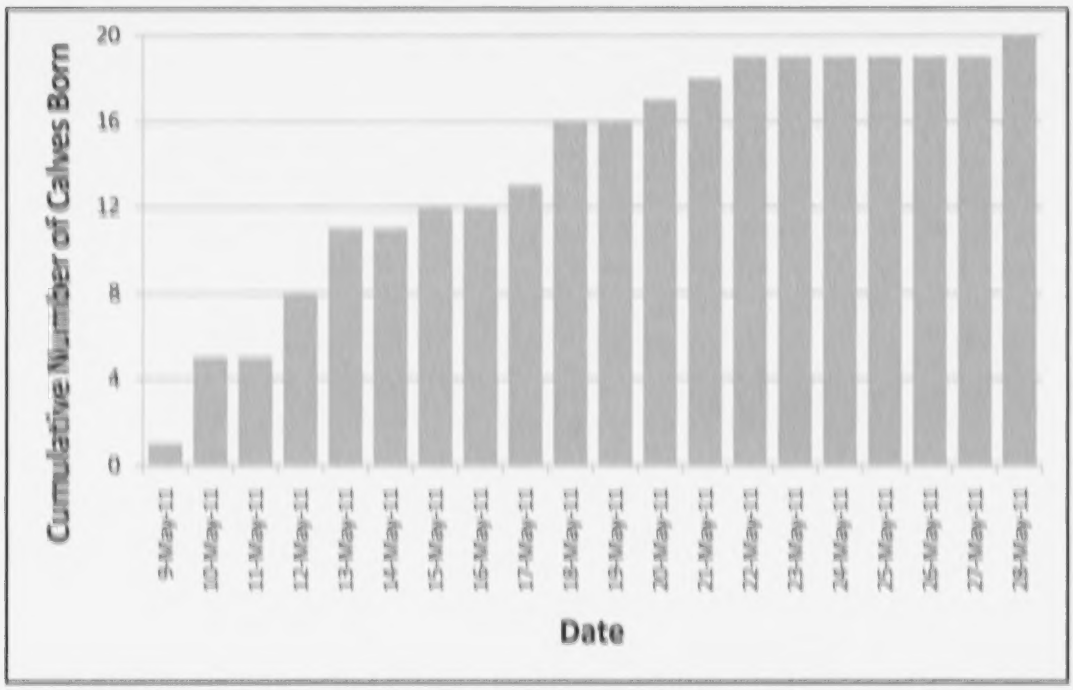

Figure 4. The number of calves born in successive days to 20 collared female boreal caribou during the May, 2011 calving period.

Table 1. The number of blood samples indicating pregnant, borderline, and not pregnant for collared boreal caribou females over time. Pregnancy determination based upon progesterone levels in blood serum. No collaring occurred in 2011.

	2004	2005	2006	2007	2008	2009	2010	2012
Pregnant	10	12	10	16	7	7	17	14
Borderline	0	0	2	1	0	0	1	0
Not Pregnant	0	1	1	0	1	1	0	2
Total	10	13	13	17	8	8	18	16

February/March Classification Survey

This survey is conducted with a helicopter because we need to see all collared caribou and determine the sex/age class of all other caribou we see. Caribou are classified into calves (9-10 months old), yearlings (21-22 months old), females (≥32 months old), and males (≥32 months old), based upon antler size and shape and animal size. There is the potential for some yearlings to be mistakenly classified as females or males ≥32 months old. Photographs of caribou groups are taken to verify classification and the presence of calves. We assume that calves of the year observed in this late winter survey are recruited into the population. We also report other wildlife observed during surveys (Table 2). The survey was conducted 29 February – 2 March, 2012, covering a flight line of ca. 1900km; 197 boreal caribou were classified (Table 2). This winter we experienced low depths of snow, a number of warm weather episodes, and few prolonged cold snaps. Local harvesters were saying that boreal caribou were moving constantly throughout the winter. Location data from collared female caribou showed the same thing and that caribou did not become sedentary in January and February as in other years. Collared caribou were certainly well spread out during the survey. This likely contributed to the greater amount of flying we needed to complete the survey. Also the South Slave did not do a survey this year. During the past 2 years they classified any of our collared females in the Redknife River area. The lack of fresh snow likely reduced our observations of groups of caribou which did not have a collared female in them.

Seventeen of 30 collared females were observed with calves. Based upon the total number of females and calves observed, we estimated 38.5 calves per 100 adult females; the second highest we have reported (Table 2) and higher than that reported for caribou in the Cameron Hills and Hay River Lowlands study areas (Kelly and Cox 2011) but lower than that reported for the Gwich'in study areas in the Lower Mackenzie Valley (J. Nagy pers. comm.). Wolf predation on boreal caribou is negligible in the Lower Mackenzie Valley unlike in the Cameron Hills, Hay River Lowlands and Dehcho study areas (Johnson 2007; Larter and Allaire 2010; Kelly and Cox 2011; Nagy 2011).

Table 2. The number of caribou classified and other wildlife observed during caribou sex/age classification surveys in 2006-2012 conducted in February-March.

	2006	2007	2008	2009	2010	2011	2012
Number of active collars	24	33	35	37	39[1]	24[2]	30
Total number of caribou observed	170	216	241	291	235	161	197
Number of females (≥32 mo.)	94	114	145	160	128	74	104
Number of calves (8-10 mo.)	27	26	34	50	45	33	40
Number of yearlings (20-22 mo.)	13	6	1	1	1	2	1
Number of males (≥32 mo.)	35	70	61	80	61	50	52
Number unknown sex/age caribou	1	0	0	0	0	2	0
Number of calves per 100 females	28.7	22.8	23.4	31.3	35.2	44.6	38.5
Number of moose observed	18	38	15	31	23	22	25
Number of wolves observed	2	1	0	0	0	0	0
Flight line length (km)	1200	1600	1700	2000	1750	1655	1900

[1] One collared animal located during the South Slave classification survey.
[2] Two collared animals located during the South Slave classification survey.

Relocation Flights

Between 15 March 2011 and 15 March 2012 four relocation flights were made, primarily to confirm downed collars or verify VHS transmissions. The only active VHF collar (caribou 134) released as scheduled in July 2011. See appendix 2 for more details.

Released Collars and Caribou Deaths

Five collared caribou died between April 1, 2011 and March 31, 2012. We retrieved one of these collars from a wolf kill on the Ebbutt Hills (caribou 173) and another was turned in by a local harvester (caribou 122). Five collars released on schedule in June and July, 2011. We have been unable to retrieve any released collars as they were widely distributed in inaccessible areas. We had extremely limited access to fire operations helicopters this summer, which greatly reduced our chances of retrieving downed collars.

Since March 2004, 44 collared caribou have died. Predation by wolves and black bears has been the main cause of death. There is strong evidence that 31 caribou (75%) were killed by wolves and one was killed by a black bear. Six (15%) caribou were harvested, two died of causes likely associated with old age, and the cause of death for 4 caribou remains unknown. Most deaths (n=34; 77%) occur between late-March and mid-July in any year; similar to that reported in the Cameron Hills and Hay River Lowlands study areas (Johnson 2007).

Boreal caribou use areas ≤400m from anthropogenic linear features less than other areas, and they travel faster when they encounter them (Nagy 2011) likely because these features provide travel corridors for predators. The remains of 15 of 36 (42%) predated caribou were located ≤400m from the nearest anthropogenic linear feature.

Teeth have been retrieved from 14 of 44 caribou that died and were aged at Matson's Lab (Missoula, Montana). Age is determined have been counting cementum annuli on teeth (the incisor is best), similar to counting the rings of a tree (Fig. 6). June 1 has historically been used as the birth date for caribou (Matson 1981); however, this is being adjusted based upon the results of this study. Caribou ranged in age at death from five to 17 years (Fig. 7).

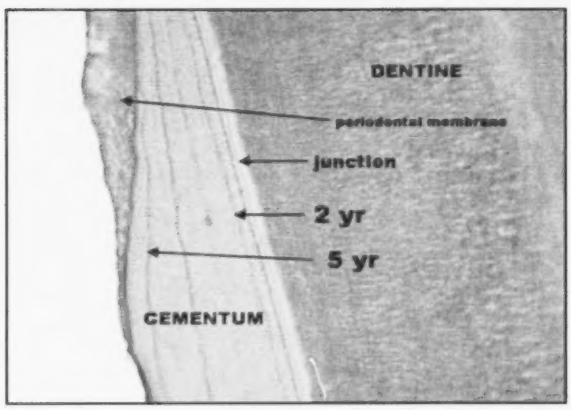

Figure 6. The stained section of a tooth root. The dark blue lines are stained cementum.

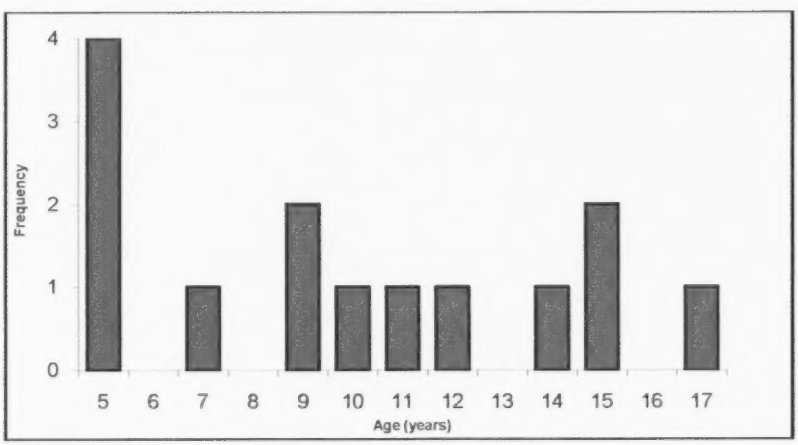

Figure 7. The ages of 14 female boreal caribou at the time of their death. Age was determined by counting cementum annuli.

Adult Female Survival

Adult female survival varies annually (Table 3; Fig. 8), but based upon the number of collared caribou that have died during the course of the study to date (Kaplan and Meier 1958; Pollock et al. 1989), our best estimate (geometric mean) of adult female survival for the Dehcho from 2005/06 to 2010/12 is 78%. We did not include the estimates from 2004/05 due to a small sample size (ten collars) and the restricted area of deployment. Adult females collared in the north Dehcho have a somewhat higher estimated survival than females collared in the south Dehcho, 81.3% versus 76.1%. Nagy (2011) found that boreal caribou populations were more viable in areas with fewer seismic lines, and where there were larger patches of secure unburned habitat. Our estimates of adult female survival support this because there are fewer seismic lines, and more, larger patches of unburned habitat in the north versus the south Dehcho. The adult female survival rate we report is lower in comparison to estimates from studies in the Cameron Hills (81% average from five years) and Hay River Lowlands (86% average from seven years; Kelly and Cox 2011) and Gwich'in (≥95% average from three years; Nagy 2011) areas. Low adult female survival reduces the population rate of increase.

Estimated Population Rate of Increase

We estimated the population rate of increase (λ) measured from April 1 to March 31 for seven successive years for all caribou collared throughout the entire study area. We made separate estimates for caribou collared north and south of the Mackenzie River (Table 3). We based the λ estimate on annual female survival and the ratio of calves per 100 adult females (ca:cow) reported in March (Hatter and Bergerud 1991). Of note is that prior to 2009, the March ratio of ca:cow was estimated from all animals observed during the classification surveys. From 2009 to present, we had a larger sample size of collared and therefore known females. Because it is these females that are used to estimate adult survival, and adult females are harvested, we have derived ca:cow from just the collared females. We feel this is the most appropriate estimation of recruitment assuming that the collared females are a representative sample of all females. A rate of increase, or λ, of one indicates population stability, <1 indicates population decrease, and >1 indicates population increase. Small sample sizes affect the confidence of the estimate. For the past 3 years (2009/10, 2010/11, and 2011/12, λ was >1, likely because female survival had remained consistent while the number of calves seen in late-winter was higher than in years previous (Table 3; Fig. 8). The higher estimated annual rate of increase over the past three years is encouraging. However, the average estimated rate of increase over the past 7 years (λ = 0.98) still remains <1. If we had started with a population of 1000 adult female caribou in 2004, and used our estimated annual population rates of increase there would be 887 adult females today (Fig. 9). There is no question that the higher calf recruitment over the past three years has had a positive influence on the boreal caribou population in the study area.

The population rate of increase (λ) we report (averaged over seven years) is similar to the Hay River Lowlands (λ = 0.96 averaged over seven years) but greater than the Cameron Hills (λ = 0.87 averaged over five years) study areas, (Kelly and Cox 2011), even though adult female survival is higher in both South Slave (SS) study

areas. Calf recruitment in SS study areas is much lower than in the Dehcho, which appears to be lowering λ in the SS regardless of adult female survival >80%. The population rate of increase reported for the Gwich'in areas over two to three years was λ = 1.08 – 1.20 (Nagy 2011), where female survival and late winter ca:cow are higher.

Table 3. The estimated annual population rate of increase (λ) for 7 successive years. Rates for the south Dehcho are calculated for caribou collared south of the Mackenzie River, rates for the north Dehcho for caribou collared north of the Mackenzie River.

South Dehcho

Year	Female Survival Rate	Ca:100 Females	Rate of Increase (λ)
2005-2006	0.6250	0.2587	0.7179
2006-2007	0.6429	0.2616	0.7396
2007-2008	0.9375	0.2558	1.0750
2008-2009	0.7391	0.4444	0.9503
2009-2010	0.8500	0.4667	1.1087
2010-2011	0.7143	0.5555	0.9890
2011-2012	0.8750	0.3750	1.0769

North Dehcho

Year	Female Survival Rate	Ca:100 Females	Rate of Increase (λ)
2005-2006	0.6000	0.3318	0.7193
2006-2007	0.7500	0.1999	0.8333
2007-2008	0.8235	0.1937	0.9118
2008-2009	1.0000	0.3333	1.2000
2009-2010	0.8235	0.6667	1.2353
2010-2011	1.0000	0.7333	1.5789
2011-2012	0.7692	0.6667	1.1538

Dehcho Combined

Year	Female Survival Rate	Ca:100 Females	Rate of Increase (λ)
2005-2006	0.6191	0.2881	0.7232
2006-2007	0.6923	0.2286	0.7817
2007-2008	0.8788	0.2335	0.9949
2008-2009	0.8000	0.3611	0.9763
2009-2010	0.8378	0.5238	1.1351
2010-2011	0.8571	0.6667	1.2857
2011-2012	0.8095	0.5294	1.1009

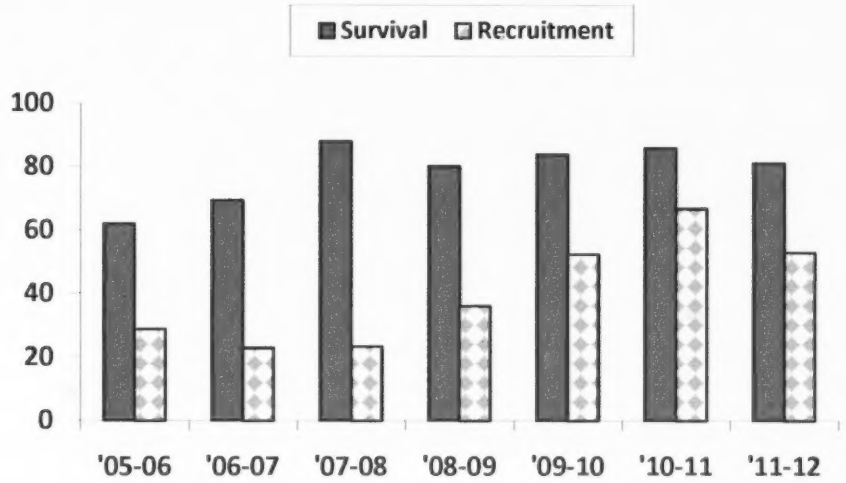

Figure 8. Adult female survival (%) and calves:100 adult females in March (recruitment) for the Dehcho study area from 2005-06 to 2011-2012, based on radio-collared female caribou.

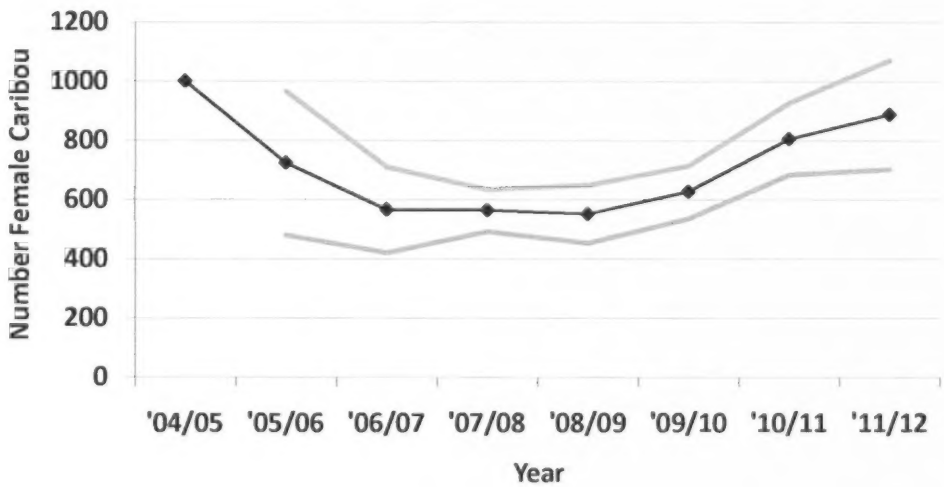

Figure 9. The estimated number of female caribou in each year of the study starting with a population of 1000 and using the annual rates of increase (λ) calculated for the 7 successive years. The green and red lines represent the upper and lower 95% confidence intervals.

Disease and Parasites

Baseline health data collected from the Dehcho, Cameron Hills and Hay River Lowlands study areas from 2003-2007 show that boreal caribou are healthy, with low numbers of parasites and antibodies being found. None of the diseases or parasites found are a cause for concern; all 22 blood samples submitted for *Brucella* testing were negative. Fecal samples from 14 females collared in February 2012

showed a low incidence (4 of 14) of common parasites. More details can be found in Johnson *et al.* (2010).

Present and Future of the Study

We continue to work co-operatively with other researchers conducting boreal caribou studies. Nic Larter is a member of the Dehcho Boreal Caribou Working Group and assisted as a science advisor for phase 2 of the *Environment Canada Boreal Caribou Critical Habitat Science Review*. Data from this study was incorporated into a territorial-wide analysis which resulted in a recent PhD thesis (Nagy 2011) and two publications (Johnson et al. 2010; Nagy et al. 2011).

Five collars released on schedule during 2011. Three more collars are expected to release in July 2012. We make every attempt to retrieve collars so they can be refurbished for future deployment with duty cycles that allow us to determine calving events remotely. At the request of our First Nation partners, we deployed collars on female boreal caribou in February 2012; no collars were deployed in 2011. At least one collar was deployed in each area requested by our 8 First Nations partners. There is consensus for annual deployment of collars to maintain a minimum of 30 active collars on females during the calving period throughout the study area.

Deliverables

ENR provides an annual progress report on the Dehcho boreal caribou study to its First Nations partners and to the Biophysical Program. The report is posted on the ENR website. ENR continues to provide quarterly maps to its First Nations partners. The maps show the ranges used by each individual collared female caribou over the previous three months.

Posters and presentations will be made and presented at the 6th biannual Dehcho regional wildlife workshop in Fort Simpson October 2012, and the 14th North American Caribou Workshop in Fort St. John September 2012.

Acknowledgements

We thank our First Nations partners for their continued and ongoing support of this study: Sambaa K'e Dene Band (Trout Lake), Fort Simpson Métis Local, Liidlii Kue First Nations (Fort Simpson), Jean Marie River First Nation, Pehdzeh Ki First Nation (Wrigley), Nahanni Butte Dene Band, Acho Dene Koe Band (Fort Liard), and Ka'a'gee Tu First Nation (Kakisa).

We thank Dr. John Nagy for assistance with data analysis, stimulating discussions, and providing data and results of territorial-wide analyses of boreal caribou location data. Deborah Johnson and Allicia Kelly provided comparative data. We thank Forest Management, ENR, Fort Simpson, for providing access to helicopter time and fuel. CLS America provided all satellite location data. Matson's Lab aged all the teeth. Simpson Air, Wolverine Air, Great Slave Helicopters, and Canadian

Helicopters provided aircraft and skillful piloting for various aspects of the study. Funding for the past year came from Wildlife Division, ENR, the Western Northwest Territories Biophysical Study (GNWT) and Aboriginal Affairs and Northern Development Canada.

Personal Communications

Brad Culling, Diversified Environmental Services, Fort St. John, BC
John Nagy, PhD., University of Alberta

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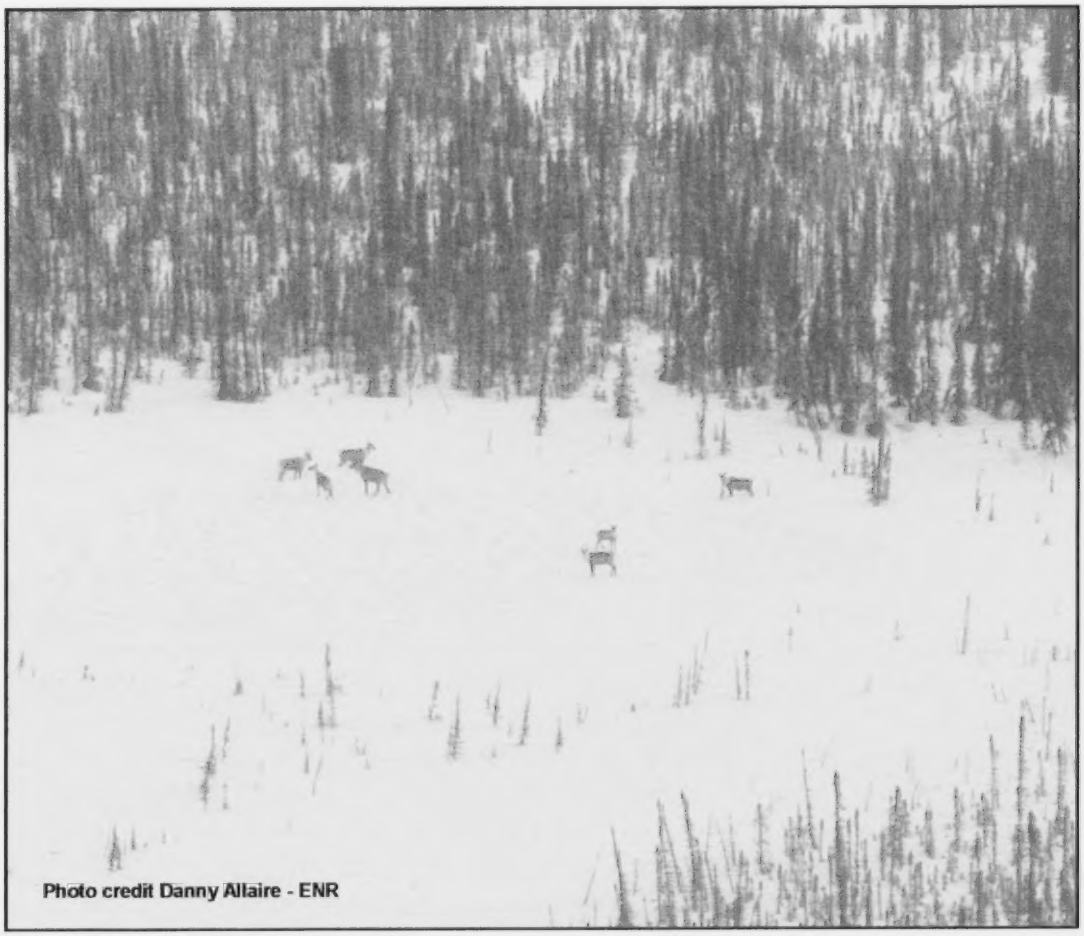
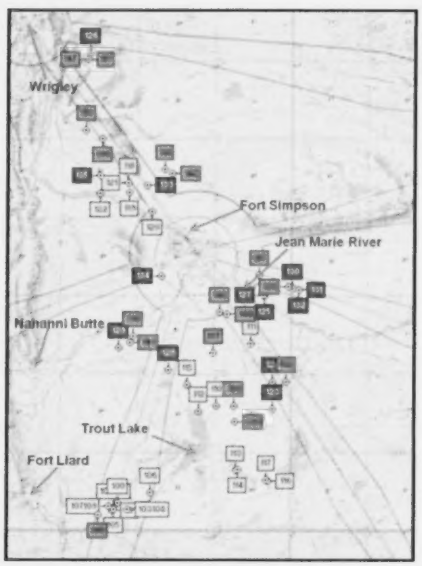


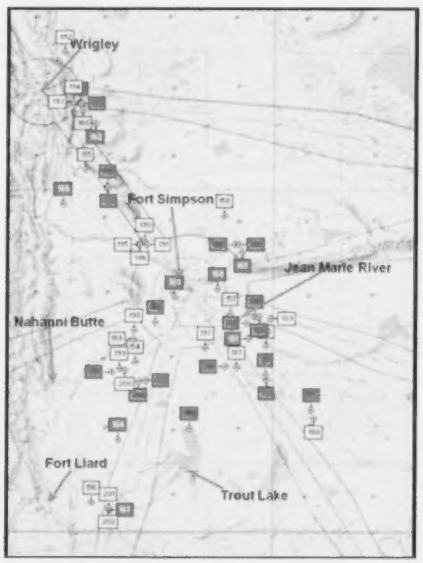
Photo credit Danny Allaire - ENR

Appendix 1. The number and type of collars deployed on adult females (Table) and deployment locations for each year (Figures).

Date caribou collared	Satellite (ST-20-3610 or TAW-4610H)	GPS (TGW-3680 or TGW-4680)	VHF (Mod 600)	Totals
March 2004	10			10
March 2005	13			13
January 2006	9		4	13
January 2007	8	9		17
February 2008	4	4		8
February 2009	1	7		8
February 2010	9	9		18
February 2012	2	14		16
TOTAL	56	43	4	103



Locations of 51 female boreal caribou collared in , , 2006, 2007 (see colour for locations).



Locations of 52 female boreal caribou collared in 2008, 2009, 2010, 2012 (see colour for locations).

Appendix 2. Brief descriptions of relocation flights and collar retrievals conducted from April 2011 to March 2012.

All relocation flights.

- 28 July, helicopter to relocate caribou 172 and 173.
- 24 August, helicopter to relocate caribou 172, 178, 154, and 185.
- 14 February, fixed-winged aircraft to relocate caribou 159, 169, and 170.
- 15 March, fixed-winged aircraft to check transmission of caribou 189.

All collar retrievals from dead animals.

- 24 August, helicopter to Ebbutt Hills, retrieved collar from caribou 173.

All flights to retrieve released collars.

- No released collars were retrieved this year.

Photo credit John Nagy

Appendix 3. A timeline of each collared caribou since 2004. The collar type (GPS, Sat = Satellite, VHF) is noted as well as whether most recently only VHF signals are being received. Black font indicates currently active collars on caribou. Blue font indicates unknown/released caribou collars. Red font indicates collars of known dead caribou.

Caribou #202 (GPS)
- 14 Mar/12 collared

Caribou #201 (GPS)
- 14 Mar/12 collared

Caribou #200 (GPS)
- 17 Feb/12 collared
- 2 Mar/12 seen with #199 but without calf

Caribou #199 (Sat)
- 17 Feb/12 collared
- 2 Mar/12 seen with #200 but without calf

Caribou #198 (GPS)
- 17 Feb/12 collared
- 2 Mar/12 seen in group of 4 without calf

Caribou #197 (GPS)
- 17 Feb/12 collared
- 1 Mar/12 seen in group of 6 without calf

Caribou #196 (GPS)
- 16 Feb/12 collared
- 29 Feb/12 seen in group of 4 with calf

Caribou #195 (GPS)
- 16 Feb/12 collared
- 29 Feb/12 seen in group of 7 without calf

Caribou #194 (Sat)
- 16 Feb/12 collared
- 29 Feb/12 seen in group of 4 without calf

Caribou #193 (GPS)
- 16 Feb/12 collared
- 29 Feb/12 seen in group of 7 with calf

Caribou #192 (GPS)
- 16 Feb/12 collared
- 29 Feb/12 seen alone

Caribou #191 (GPS)
- 15 Feb/12 collared
- 29 Feb/12 seen in group of 4 with calf

Caribou #190 (GPS)
- 15 Feb/12 collared
- 29 Feb/12 seen in group of 3 with calf

Caribou #189 (GPS)
- 15 Feb/12 collared
- 1 Mar/12 could not relocate in area
- 15 Mar/12 relocated in fixed-wing weak VHF signal

Caribou #188 (GPS)
- 15 Feb/12 collared
- 1 Mar/12 seen in group of 3 without calf

Caribou #187 (GPS)
- 15 Feb/12 collared
- 1 Mar/12 seen in group of 4 without calf

Caribou #186 (GPS)
- 27 Feb/10 collared
- 2 Mar/10 seen with calf
- 2 Mar/11 seen in group of 5 with calf
- 2 Mar/12 seen in group of 4 with calf

Caribou #185 (GPS, died)

- 27 Feb/10 collared
- 2 Mar/10 seen alone, collar is resetting
- 3 Aug/10 located, no visual
- 2 Mar/11 seen in group of 4 with calf
- Died 22 Apr/12
- 24 Aug/12 unsuccessful retrieval attempt

Caribou #184 (GPS)

- 26 Feb/10 collared
- 1 Mar/10 seen in group of 6 with calf
- 1 Mar/11 seen in group of 7 with calf
- 1 Mar/12 seen in group of 4 with calf

Caribou #183 (Sat)

- 26 Feb/10 collared
- 1 Mar/10 seen in group of 6 without calf
- 1 Mar/11 seen in group of 13 without calf
- 29 Feb/12 seen in group of 2 without calf

Caribou #182 (GPS)

- 26 Feb/10 collared
- 1 Mar/10 seen with cow
- 1 Mar/11 seen in group of 7 with calf
- 1 Mar/12 seen in group of 3 with calf

Caribou #181 (Sat, died)

- 26 Feb/10 collared
- 1 Mar/10 seen in group of 3 without calf
- 1 Mar/11 seen in group of 4 with calf
- Died 25 Apr/11

Caribou #180 (Sat)

- 26 Feb/10 collared
- 1 Mar/10 seen in group of 8 with calf
- 1 Mar/11 seen in group of 5 with calf
- 29 Feb/12 seen in group of 3 without calf

Caribou #179 (GPS, died)

- 25 Feb/10 collared
- 2 Mar/10 seen in group of 11 with calf
- Died 25 Nov/10

Caribou #178 (Sat, died)

- 25 Feb/10 collared
- 1 Mar/10 seen in group of 3 with calf
- Died 8 Oct/10
- 1 Mar/11 no signal at location

Caribou #177 (GPS)

- 25 Feb/10 collared
- 2 Mar/10 seen alone
- 25 Feb/11 seen with calf
- 1 Mar/12 seen in group of 9 without calf

Caribou #176 (Sat)

- 25 Feb/10 collared
- 2 Mar/10 seen in group of 3 without calf
- 25 Feb/11 seen in group of 7 without calf
- 1 Mar/12 seen with calf

Caribou #175 (Sat, died)

- 25 Feb/10 collared
- 2 Mar/10 seen in group of 5 without calf
- Died 6 Sep/10
- 23 Nov/10 no caribou at signal location - inaccessible

Caribou #174 (GPS)

- 24 Feb/10 collared
- 1 Mar/10 seen with cow
- 1 Mar/11 seen in group of 5 with calf

- 29 Feb/12 seen in group of 8 with calf

Caribou #173 (GPS, died)
- 24 Feb/10 collared
- 1 Mar/10 seen in group of 8 with calf
- 1 Mar/11 seen in group of 5 without calf
- Died 16 Apr/11
- 24 Apr/12 collar retrieved

Caribou #172 (Sat)
- 24 Feb/10 collared
- 1 Mar/10 seen with calf
- 1 Mar/11 seen in group of 3 with calf
- 29 Feb/12 seen in group of 4 without calf

Caribou #171 (Sat)
- 24 Feb/10 collared
- 1 Mar/10 seen in group of 13 with #160 with calf
- 1 Mar/11 seen in group of 7 with calf
- 29 Feb/12 seen in group of 5 with calf

Caribou #170 (Sat)
- 23 Feb/10 collared
- 2 Mar/10 seen in group of 7 with #137 with calf
- 2 Mar/11 seen in group of 7 without calf
- 2 Mar/12 seen in group of 4 with #169 but without calf

Caribou #169 (GPS)
- 23 Feb/10 collared
- 2 Mar/10 seen alone
- 2 Mar/11 seen with calf
- 2 Mar/12 seen in group of 4 with #170 but without calf

Caribou #168 (GPS, VHF only)
- 19 Feb/09 collared
- 2 Mar/09 seen in group of 5 without calf
- 1 Mar/10 seen in group of 4 with calf
- 1 Mar/11 seen in group of 9 with calf
- 1 Jan/12 ceased satellite transmissions
- 29 Feb/12 seen in group of 4 with calf

Caribou #167 (GPS, died)
- 18 Feb/09 collared
- 3 Mar/09 seen in group of 7 without calf
- 21 Mar/09 locations became stationary, suspect wolf predation
- 5 Jun/09 collar retrieved

Caribou #166 (GPS, died)
- 19 Feb/09 collared
- 2 Mar/09 seen in group of 10 with #155 but without calf
- 1 Mar/10 seen in group of 4 without calf
- 1 Mar/11 seen alone
- Died 30 Oct/11

Caribou #165 (GPS)
- 19 Feb/09 collared with calf
- 2 Mar/09 seen in group of 14 with calf
- 1 Mar/10 seen in group of 10 with calf
- 1 Mar/11 seen in group of 9 with calf
- 29 Feb/12 seen with calf

Caribou #164 (GPS)
- 18 Feb/09 collared
- 3 Mar/09 seen in group of 4 without calf
- 2 Mar/10 seen in group of 3 without calf
- 2 Mar/11 seen with calf
- 2 Mar/12 seen in group of 6 without calf

Caribou #163 (GPS, died)

- 19 Feb/09 collared
- 3 Mar/09 seen in group of 9 without calf
- 1 Mar/10 seen with calf
- Died 15 April/10
- 14 Jun/10 signal from under ice on Liard River
- 3 Aug/10 collard seen, ice has melted
- 5 Aug/10 collar retrieved.

Caribou #162 (GPS, harvested)

- 19 Feb/09 collared
- 2 Mar/09 seen in group of 11 without calf
- 5 May/09 shot by harvester
- 24 May/09 collared retrieved

Caribou #161 (Sat, released)

- 18 Feb/09 collared
- 2 Mar/09 seen in group of 5 without calf
- 2 Mar/10 seen with cow
- 12 Nov/10 satellite transmission ceased
- 2 Jun/12 released

Caribou #160 (Sat)

- 17 Feb/08 collared with calf
- 3 Mar/08 seen in group of 5 with calf
- 28 May/08 no visual
- 2 Mar/09 seen in group of 14 without calf
- 1 Mar/10 seen in group of 13 with #171 and with calf
- 1 Mar/11 seen alone
- 29 Feb/12 seen in group of 6 with calf

Caribou #159 (Sat)

- 16 Feb/08 collared
- 4 Mar/08 seen in group of 24 without calf
- 21 Apr/08 located with 134
- 28 May/08 seen without calf
- 3 Mar/09 seen in group of 8 without calf
- 1 Mar/10 seen in group of 10 without calf
- 2 Mar/11 seen in group of 16 with #134 but without calf
- 2 Mar/12 seen in group of 7 without calf

Caribou #158 (Sat, died)

- 17 Feb/08 collared
- 3 Mar/08 seen with cow
- 28 May/08 seen with calf
- 2 Mar/09 seen in group of 6 with calf
- Died 10 May/09
- 2 Jun/09 collar retrieved

Caribou #157 (Sat, released)

- 17 Feb/08 collared
- 3 Mar/08 seen in group of 5 without calf
- 23 May/08 lost satellite signal
- 29 May/08 seen in group of 3 with calf
- 2 Mar/09 seen in group of 5 with calf
- 1 Mar/10 seen in group of 5 without calf
- 30 Sep/10 collar released

Caribou #156 (GPS, died)

- 18 Feb/08 collared with calf
- 4 Mar/08 seen in group of 4 with calf
- 29 May/08 seen without calf
- 3 Mar/09 seen in group of 14 with calf
- Died 13 Apr/09
- 13 Jul/09 collar retrieved

Caribou #155 (GPS, harvested)

- 17 Feb/08 collared
- 3 Mar/08 seen in group of 6 without calf
- 28 May/08 seen with calf

- 2 Mar/09 seen in group of 10 with #166 but without calf
- Died 29 Jul/09
- 21 Sep/09 collar retrieved

Caribou #154 (GPS, released)

- 17 Feb/08 collared
- 5 Mar/08 seen in group of 19 without calf
- 29 May/08 seen with calf
- 4 Mar/09 seen in group of 5 with calf
- 2 Mar/10 seen in group of 7 with calf
- 2 Mar/11 seen with calf
- 1 Jul/11 collar released

Caribou #153 (GPS, released)

- 16 Feb/08 collared with calf
- 4 Mar/08 seen in group of 4 without calf
- 29 May/08 seen without calf
- 2 Mar/09 seen in group of 5 with calf
- 2 Mar/10 seen in group of 4 with calf
- 2 Mar/11 seen in group of 6 without calf
- 1 Jul/11 collar released

Caribou #152 (GPS, died)

- 23 Jan/07 collared
- 27 Feb/07 seen in group of 6 without calf
- 30 May/07 seen with calf
- 4 Mar/08 seen with cow
- 30 May/08 seen with calf
- 3 Mar/09 seen in group of 10 without calf
- 2 Mar/10 seen in group of 9 with calf
- Died 25 Mar/10
- 21 May/10 tried to relocate by helicopter, too much water
- 22 Feb/11 ground relocation attempt but no signal

Caribou #151 (GPS, harvested)

- 22 Jan/07 collared
- 26 Feb/07 seen in group of 6 without calf
- 29 May/07 seen with calf
- 3 Mar/08 seen in group of 8 without calf
- 28 May/08 seen with calf
- Died 8-10 Aug/08 by Fish Lake likely shot by harvester
- 2 Jun/09 collar retrieved

Caribou #150 (GPS, harvested)

- 22 Jan/07 collared
- 26 Feb/07 seen in group of 2 without calf
- 29 May/07 seen with calf
- 3 Mar/08 seen with cow
- Died 26-28 May/08 likely shot by harvester
- 17 Jun/08 collar retrieved

Caribou #149 (GPS, released)

- 24 Feb/07 collared
- 27 Feb/07 seen in group of 7 without calf
- 30 May/07 seen with calf
- 4 Mar/08 seen in group of 10 without calf
- 29 May/08 seen with calf
- 3 Mar/09 seen in group of 9 with calf
- 3 Mar/10 seen in group of 12 without calf
- 2 Jun/10 collar released
- 8 Oct/10 collar retrieved

Caribou #148 (Sat, released)

- 24 Jan/07 collared
- 26 Feb/07 seen in group of 12 without calf
- 30 May/07 seen without calf
- 4 Mar/08 seen with calf
- 29 May/08 seen with calf
- 2 Mar/09 seen in group of 3 without calf
- 30 Sep/09 collar released

- 2 Mar/10 collar located from air in inaccessible area

Caribou #147 (Sat, died)

- 22 Jan/07 collared
- 26 Feb/07 seen in group of 8 without calf
- 30 May/07 seen without calf
- 3 Mar/08 seen in group of 9 without calf
- 28 May/08 seen with calf
- Died 20-26 Jun/08
- 17 Aug/09 collar retrieved

Caribou #146 (Sat, released)

- 21 Jan/07 collared
- 27 Feb/07 see in group of 11 with calf
- 30 May/07 seen with calf
- 4 Mar/08 seen in group of 4 with calf
- 29 May/08 seen without calf
- 2 Jul/08 lost satellite signal
- 3 Mar/09 seen in group of 3 with #108 but without calf
- 2 Mar/10 seen in group of 4 with calf
- 30 Sep/10 collar released

Caribou #145 (Sat, released)

- 21 Jan/07 collared
- 27 Feb/07 seen in group of 3 without calf
- 30 May/07 seen without calf
- 3 Mar/08 seen in group of 4 with calf
- 29 May/08 seen with calf
- 2 Jul/08 lost satellite signal
- 2 Mar/09 seen in group of 5 with calf
- 1 Mar/10 seen in group of 4 with calf
- 30 Sep/10 collar released

Caribou #144 (Sat, harvested)

- 23 Jan/07 collared
- 26 Feb/07 seen in group of 10 without calf
- Died 5-6 Apr/07 shot by harvester
- 12 Apr/07 collar retrieved

Caribou #143 (Sat, released)

- 21 Jan/07 collared
- 26 Feb/07 seen in group of 6 without calf
- 29 May/07 seen with calf
- 20 Nov/07 seen in group of 4
- 04 Sep/07 lost satellite transmission
- 4 Mar/08 seen in group of 6 without calf
- 26 Mar/08 located, no visual
- 21 Apr/08 located, no visual
- 29 May/08 not located, no signal
- 3 Mar/09 seen in group of 2 without calf
- 14 May/09 located, no visual
- 1 Jun/09 seen with calf
- 9 Jul/09 located, no visual
- 12 Aug/09 located, no visual
- 2 Sept/09 located, no visual
- 28 Oct/09 located, no visual
- 22 Nov/09 located, no visual
- 22 Feb/10 located, no visual
- 2 Mar/10 seen in group of 4 without calf
- 3 Aug/10 located, no visual
- 30 Sep/10 collar released
- 23 Nov/10 no caribou at collar location
- 31 Jan/11 no caribou at signal location

Caribou #142 (Sat, unknown status)

- 22 Jan/07 collared
- 26 Feb/07 seen in group of 10 without calf
- 29 May/07 seen with calf
- 3 Mar/08 seen in group of 4 without calf
- Died before 9 May/08
- 28 May/08 no VHF signal from last known satellite location, collar likely underwater

Caribou #141 (Sat, died)

- 23 Jan/07 collared
- 26 Feb/07 seen in group of 2 without calf
- Died 27-31 May/07
- 13 Jul/07 collar retrieved

Caribou #140 (GPS, died)

- 24 Jan/07 collared
- 26 Feb/07 seen in group of 3 without calf
- 30 May/07 seen without calf
- Died 30 Oct-4 Nov/07
- 25 Apr/08 collar retrieved

Caribou #139 (GPS, died)

- 21 Jan/07 collared
- 27 Feb/07 seen in group of 6 without calf
- 30 May/07 seen in group of 4 with calf
- 3 Mar/08 seen with calf
- 29 May/08 seen with calf
- 2 Mar/09 seen in group of 3 without calf
- Died 6 July/09
- 10 Aug/09 collar retrieved

Caribou #138 (GPS, released)

- 23 Jan/07 collared
- 27 Feb/07 seen in group of 4 without calf
- 30 May/07 seen without calf
- 4 Mar/08 seen in group of 8 without calf
- 29 May/08 seen with calf
- 3 Mar/09 seen in group of 17 without calf
- 2 Mar/10 seen in group of 3 without calf
- 2 Jun/10 collar released

Caribou #137 (GPS, released)

- 23 Jan/07 collared
- 27 Feb/07 seen in group of 5 without calf
- 29 May/07 seen with calf
- 5 Mar/08 seen with calf
- 29 May/08 seen in group of 3 with calf
- 3 Mar/09 seen in group of 13 with calf
- 2 Mar/10 seen in group of 7 with #170 with calf
- 2 Jun/10 collar released
- 3 Aug/10 no caribou at signal location
- 23 Nov/10 no caribou at signal location

Caribou #136 (GPS, released)

- 23 Jan/07 collared
- 26 Feb/07 seen in group of 5 without calf
- 29 May/07 seen without calf
- 5 Mar/08 seen in group of 19 without calf
- 29 May/08 seen with calf
- 7 Mar/09 seen in group of 7 without calf
- 2 Mar/10 seen in group of 3 without calf
- 2 Jun/10 collar released
- 3 Aug/10 no caribou at signal location

Caribou #135 (VHF, died)

- 21 Jan/06 collared
- 1 Mar/06 seen in group of 4 without calf
- 30 May/06 without calf
- 28 Sep/06 no visual
- 23 Feb/07 seen in group of 6 without calf
- Died 23-28 May/07
- 31 May/07 collar retrieved

Caribou #134 (VHF, released)

- 21 Jan/06 collared
- 1 Mar/06 seen in group of 3
- 29 May/06 seen with calf
- 16 Sep/06 seen in group of 4
- 26 Feb/07 seen in group of 2 without calf
- 29 May/07 seen without calf

- 15 Feb/08 seen in group of 13 without calf
- 4 Mar/08 seen in group of 24 without calf
- 26 Mar/08 located, no visual
- 21 Apr/08 located with #159
- 28 May/08 seen with calf
- 3 Mar/09 seen in group of 9 with calf
- 14 May/09 located, no visual
- 1 Jun/09 seen with calf
- 9 Jul/09 located, no visual
- 12 Aug/09 located, no visual
- 2 Sep/09 located, no visual
- 28 Oct/09 located, no visual
- 22 Nov/09 located, no visual
- 22 Feb/10 located, no visual
- 1 Mar/10 seen in group of 3 with calf
- 14 Jun/10 located, no visual
- 3 Aug/10 located, no visual
- 23 Nov/10 located, no visual
- 31 Jan/11 located, no visual
- 1 Mar/11 seen in group of 16 including #159 and with calf

Caribou #133 (VHF, unknown status)

- 21 Jan/06 collared
- 1 Mar/06 seen with calf
- 30 May/06 seen with calf
- 23 Jan/07 seen in group of 10 without calf
- 26 Feb/07 seen in group of 3 without calf
- 29 May/07 seen with calf
- Unable to relocate since Dec/08

Caribou #132 (VHF, released)

- 22 Jan/06 collared
- 1 Mar/06 seen in group of 9 with calf
- 29 May/06 approx. location not pregnant
- 16 Sep/06 seen in group of 2 without calf
- 26 Feb/07 seen in group of 3 without calf
- 30 May/07 seen with calf
- 15 Feb/08 seen in group of 5 without calf
- 4 Mar/08 seen in group of 5 without calf
- 26 Mar/08 located, no visual
- 21 Apr/08 located, no visual
- 29 May/08 not located
- 1 Mar/09 programmed release date
- 2 Mar/09 located collar in mortality mode, no caribou at signal location

Caribou #131 (Sat, released)

- 22 Jan/06 collared
- 1 Mar/06 seen with calf
- 29 May/06 without calf
- 16 Sep/06 seen in group of 3 cows without calf
- 21 Jan/07 seen in group of 5 with calf
- 27 Feb/07 seen in group of 5 without calf
- 30 May/07 seen with calf
- 03 Mar/08 seen in group of 8 with calf
- 29 May/08 seen with calf
- 2 Mar/09 seen in group of 4 with calf
- 15 Apr/09 collar released

Caribou #130 (Sat, died)

- 22 Jan/06 collared
- 1 Mar/06 seen in group of 7 without calf
- 29 May/06 without calf
- Died 1-7 Jul/06
- 23 Aug/06 collar retrieved

Caribou #129 (Sat, died)

- 20 Jan/06 collared
- 1 Mar/06 seen in group of 6 without calf
- 30 May/06 seen with calf
- 16 Sep/06 with calf

- 21 Jan/07 seen in group of 4 with calf
- 26 Feb/07 seen in group of 10 with calf
- 29 May/07 seen with calf
- 05 Mar/08 seen without calf
- Died 18-22 May/08
- 29 May/08 collar retrieved

Caribou #128 (Sat, released)

- 20 Jan/06 collared
- 2 Mar/06 seen in group of 5 without calf
- 30 May/06 seen in group of 4 with calf
- 16 Sep/06 seen in group of 3 without calf
- 27 Feb/07 seen in group of 5 without calf
- 29 May/07 seen with calf
- 04 Mar/08 seen in group of 10 with calf
- 29 May/08 seen with calf
- 22 Oct/08 collar finished transmitting
- 3 Mar/09 seen in group of 3 with calf
- 2 Mar/10 seen in group of 7 without calf
- 3 Mar/10 collar released

Caribou #127 (Sat, died)

- 22 Jan/06 collared
- 1 Mar/06 seen in group of 7 with calf
- 29 May/06 seen with calf
- Died 1-5 Jul/06
- 16 Sep/06 confirm wolf predation
- 23 Oct/06 collar retrieved

Caribou #126 (Sat, died)

- 21 Jan/06 collared
- 1 Mar/06 seen in group of 5 with yearling
- 30 May/06 seen with calf
- 26 Feb/07 seen in group of 13 without calf
- 29 May/07 seen without calf
- 03 Mar/08 seen in group of 14 without calf
- 28 May/08 seen with calf
- 2 Mar/09 seen in group of 5 without calf
- Died 28 Apr/09
- 7 Jun/11 collar retrieved

Caribou #125 (Sat, died)

- 22 Jan/06 collared
- 1 Mar/06 seen in group of 16 with yearling
- 29 May/06 seen with small calf
- Died 12-15 Jul/06, likely wolf predation
- 16 Sep/06 no visual
- 23 Oct/06 collar retrieved

Caribou #124 (Sat, died)

- 20 Jan/06 collared
- 2 Mar/06 seen in group of 7 without calf
- Died 13-19 May/06, likely wolf predation
- 23 Aug/06 collar retrieved

Caribou #123 (Sat, died)

- 20 Jan/06 collared
- 2 Mar/06 seen in group of 4 with calf
- 29 May/06 without calf
- 16 Sep/06 seen in group of 3
- Died 1-5 Nov/06 on Trainor Lake
- 15 Feb/07 locate collar in ice
- 27 Feb/07 collar retrieved

Caribou # 122 (Sat, harvested)

- 4 Mar/05 collared
- 21 Mar/05 seen in group of 3
- 30 Mar/05 seen in group of 3
- 1 Jun/05 seen alone without calf
- 4 Jun/05 no visual
- 23 Sep/05 no visual
- 10 Oct/05 no visual
- 31 Nov/05 no satellite signal

- 4 Apr/05 got satellite signal back
- 30 May/05 seen without calf
- 24 Nov/06 no satellite signal
- 15 Jun/07 collar went off air finishing transmissions
- 15 Apr/11 collar handed in by harvester

Caribou #121 (Sat, died)

- 4 Mar/05 collared
- 21 Mar/05 seen in group of 3
- Died 26-27 Mar/05 predated by wolves
- 30 Mar/05 collar retrieved

Caribou #120 (Sat, released)

- 4 Mar/05 collared
- 21 Mar/05 seen in group of 13
- 30 Mar/05 seen in group of 3
- 1 Jun/05 no visual
- 4 Jun/05 seen alone without calf
- 23 Sep/05 seen in group of 14
- 10 Oct/05 no visual
- 16 Jan/06 seen in group of 3
- 1 Mar/06 seen in group of 5
- 30 May/06 without calf
- 26 Feb/07 seen in group of 10 without calf
- 30 May/07 seen without calf
- 7 Dec/07 seen in group of 4 without calf
- 3 Mar/08 seen in group of 4 without calf
- 28 May/08 seen with calf
- 7 Oct/08 transmissions from collar ceased
- 2 Mar/09 see in group of 6 without calf
- 3 Mar/09 collar released
- 29 Aug/09 collar retrieved

Caribou # 119 (Sat, released)

- 4 Mar/05 collared
- 21 Mar/05 seen in group of ≥8
- 30 Mar/05 no visual
- 1 Jun/05 seen alone without calf
- 23 Sep/05 no visual
- 10 Oct/05 no visual
- 16 Jan/06 in group of 5 without calf
- 1 Mar/06 in group of 4
- 30 May/06 with calf
- 22 Jan/07 in group of 3 with calf
- 26 Feb/07 in group of 11 with calf
- 29 May/07 seen without calf
- 3 Mar/08 seen with cow
- 28 May/08 seen with calf
- 10 Sep/08 satellite transmissions ceased
- 2 Mar/09 seen in group of 5 without calf
- 3 Mar/09 collar released
- 2 Jun/09 collar retrieved

Caribou # 118 (Sat, died)

- 4 Mar/05 collared
- 21 Mar/05 seen in group of 10
- 30 Mar/05 seen in group of 9
- 1 Jun/05 no visual
- 4 Jun/05 no visual
- Died 15-21 Jun/05, likely wolf predation
- 6 Sep/05 collar retrieved

Caribou #117 (Sat, died)

- 3 Mar/05 collared
- 31 May/05 seen alone without calf
- 10 Jun/05 seen in thick brush
- 23 Sep/05 seen in group of at least 4
- 26 Jan/06 seen in group of 4 with calf
- 2 Mar/06 seen in group of 5 with calf
- Died 17-21 Apr/06
- 28 Aug/06 collar retrieved

Caribou #116 (Sat, released)

- 3 Mar/05 collared

- 31 May/05 seen alone without calf
- 10 Jun/05 no visual
- 23 Sep/05 seen in group of 3
- 26 Jan/06 seen in group of 7 with calf
- 2 Mar/06 seen in group of 4 with calf
- 29 May/06 seen with calf
- 16 Sep/06 seen in group of 2 without calf
- 23 Jan/07 seen in group of 12 without calf
- 27 Feb/07 seen in group of 6 without calf
- 30 May/07 seen in group of 3 with calf
- 4 Mar/08 seen with bull
- 29 May/08 seen with calf
- 13 Oct/08 satellite transmission ceased
- 3 Mar/09 seen in group of 17 without calf
- 3 Mar/09 collar released
- 7 Jul/09 collar retrieved

Caribou #115 (Sat, released)

- 3 Mar/05 collared
- 10 Apr/05 seen in group of 3
- 31 May/05 seen alone without calf
- 23 Sep/05 no visual
- 5 Oct/05 seen in group of 2 without calf
- 2 Mar/06 seen in group of 9 without calf
- 30 May/06 seen in group of 2 without calf
- 16 Sep/06 seen in group of 4 without calf
- 27 Feb/07 seen in group of 4 without calf
- 29 May/07 seen with calf
- 04 Mar/08 seen with 2 cows
- 30 May/08 seen with calf
- 1 Oct/08 satellite transmissions ceased
- 4 Mar/09 seen in group of 3 with calf
- 3 Mar/09 collar released
- 10 Aug/09 collar retrieved

Caribou #114 (Sat, released)

- 3 Mar/05 collared
- 10 Apr/05 seen in group of 9
- 31 May/05 no visual
- 10 Jun/05 seen alone without calf
- 23 Sep/05 no visual
- 2 Mar/06 seen in group of 6 without calf
- 29 May/06 seen in group of 3 without calf
- 16 Sep/06 seen in group of 3 without calf
- 27 Feb/07 seen in group of 6 without calf
- 30 May/07 seen with without calf
- 4 Mar/08 seen in group of 7 without calf
- 29 May/08 seen with calf
- 3 Jul/09 satellite transmissions ceased
- 3 Mar/09 seen in group of 13 with calf
- 3 Mar/09 collar released
- 1 Jun/09 collar retrieved

Caribou #113 (Sat, died)

- 3 Mar/05 collared
- 10 Apr/05 seen in group of 4
- 31 May/05 no visual
- 10 Jun/05 seen alone without calf
- Died 2-8 Sep/05 likely wolf predation
- 5 Oct/05 collar retrieved

Caribou #112 (Sat, released)

- 3 Mar/05 collared
- 10 Apr/05 seen with calf
- 31 May/05 seen with calf
- 10 Jun/05 seen with calf
- 23 Sep/05 no visual

- 1 Mar/06 seen in group of 6 with calf
- 30 May/06 seen in group of 4 with calf
- 16 Sep/06 seen with calf
- 27 Feb/07 seen in group of 5 with calf
- 29 May/07 seen with calf
- 5 Mar/08 seen with 2 bulls
- 30 Jun/08 located, no visual
- 22 Oct/08 satellite transmission ceased
- 3 Mar/09 collar released
- 6 Jul/09 collar retrieved

Caribou #111 (Sat, released)

- 3 Mar/05 collared
- 5 May/05 seen in group of 2
- 31 May/05 seen with calf
- 23 Sep/05 seen in group of 5 with calf
- 1 Mar/06 seen in group of 9 without calf
- 29 May/06 seen with calf
- 16 Sep/06 seen in group of 3
- 24 Jan/07 seen in group of 14
- 27 Feb/07 seen in group of 4 with calf
- 30 May/07 seen with calf
- 4 Mar/08 seen in group of 8 with calf
- 28 May/08 seen with calf
- 11 Nov/08 satellite transmission ceased
- 3 Mar/09 seen in group of 11 with calf
- 3 Mar/09 collar released
- 10 Jul/09 collar retrieved

Caribou #110 (Sat, died)

- 5 Mar/05 collared
- 5 May/05 seen alone without calf
- 31 May/05 seen alone without calf
- Died 5-11 Jun/05 likely wolf predation
- 29 Jul/05 collar retrieved

Caribou #109 (Sat, died)

- 1 Apr/04 collared
- 29 May/04 no visual
- 22 Sep/04 seen in group of 4 without calf
- 31 May/05 seen with calf
- 19 Jun/05 seen with calf
- 23 Sep/05 no visual
- 5 Oct/05 seen in group of 3 with calf
- Died 22-25 Apr/06, likely wolf predation
- 23 Aug/06 collar retrieved

Caribou #108 (Sat, observed alive, no Sat or VHF active)

- 1 Apr/04 collared
- 29 May/04 seen alone without calf
- 3 Jun/04 no visual
- 22 Sep/04 seen in group of 3 without calf
- 25 Jan/05 seen in group of 4 without calf
- 31 May/05 no visual
- 10 Jun/05 no visual
- 19 Jun/05 seen with calf
- 23 Sep/05 no visual
- 5 Oct/05 seen in group of 5 with calf
- 2 Mar/06 seen in group of 3 with yearling
- 30 May/06 seen with calf
- 23 Jan/06 seen in group of 5 with calf
- 27 Feb/07 seen in group of 11 with calf
- 30 May/07 seen in group of 3 with calf
- 15 Jun/07 satellite transmissions ceased
- 3 Mar/09 seen in group of 3 with #146, no VHF transmissions

Caribou #107 (Sat, died)

- 1 Apr/04 collared

- 29 May/04 no visual
- 22 Sep/04 seen in group of 3 with calf
- Died 14-17 Apr/05 likely wolf predation
- 4 May/05 collar retrieved

Caribou #106 (Sat, died)

- 30 Mar/04 collared
- 29 May/04 no visual
- 3 Jun/04 seen in group of 2 with calf
- 22 Sep/04 seen in group of 7 without calf
- 25 Jan/05 seen in group of 5 without calf
- 31 May/05 seen alone without calf
- 23 Sep/05 seen in group of 2 without calf
- Died 21-24 Nov/05, likely wolf predation
- 30 May/06 collar retrieved

Caribou #105 (Sat, died)

- 30 Mar/04 collared
- 29 May seen in group of 3 with calf
- 22 Sep/04 no visual
- 25 Jan/05 seen in group of 3 without calf
- 31 May/05 seen alone without calf
- 19 Jun/05 seen alone without calf
- 23 Sep/05 no visual
- 2 Mar/06 seen in group of 11 without calf
- Died 13 May/06, likely wolf predation
- 23 Aug/06 collar retrieved

Caribou #104 (Sat, died)

- 29 Mar/04 collared
- 29 May/04 seen in group of 3 without calf
- 3 Jun/04 seen in group of 3 without calf
- 22 Sep/04 no visual
- Died 19-27 Apr/05, death probably related to old age
- 4 May/05 collar retrieved

Caribou #103 (Sat, died)

- 1 Apr/04 collared
- 29 May/04 seen in group of 3 with calf
- 22 Sep/04 no visual
- Died 25-30 Apr/05, likely wolf predation
- 4 May/05 collar retrieved

Caribou #102 (Sat, died)

- 29 Mar/04 collared
- Died 14-15 May/04, wolf predation
- 3 Jun/04 collar retrieved

Caribou # 101 (Sat, died)

- 30 Mar/04 collared
- Died during month of May/04, likely wolf predation
- 9 Aug/04 collar retrieved

Caribou # 100 (Sat, no Sat or VHF active)

- 29 Mar/04 collared
- 29 May/04 seen in group of 3 without calf
- 3 Jun/04 seen alone without calf
- 22 Sep/04 no visual
- 25 Jan/05 seen in group of 11, without calf
- 31 May/05 seen in group of 3 with calf
- 19 Jun/05 seen alone without calf
- 23 Sep/05 problems with VHF transmission
- 30 Oct/06 problems with satellite transmission
- 6 Feb/06 no satellite/VHF signal
- 27 Feb/07 no visual
- 30 May/07 no visual

- 15 Jun/07 satellite transmission ceased